C.   REMARKS

The Examiner is thanked for the performance of a thorough search. By this amendment, Claims 1 and 23 have been amended. Hence, Claims 1-49 are pending in this application. The amendments to the claims and specification do not add any new matter to this application. The amendments made to the specification were made to correct minor typographical errors. All issues raised in the Office Action mailed September 11, 2003 are addressed hereinafter.

AFFIRMATION OF ELECTION OF CLAIMS FOR EXAMINATION

The undersigned hereby affirms the provisional election with traverse of Group I Claims 1-9, 14-20, 23-31 and 38-49 for examination that was made during a telephone call between the undersigned and the Examiner conducted on August 21, 2003.

OBJECTION TO DRAWINGS

The drawings were objected to on several grounds including: (1) FIG. 1 should be designated as "Prior Art", (2) reference numeral 102 shown on FIG. 1 is not mentioned in the description, (3) the reference numbers 100, 106 and 110 discussed on Page 10 of the description do not appear on FIG. 2.

Corrected formal drawings are filed with this Reply addressing the issues raised by the Examiner. Specifically, FIG. 1 is now designated as "Prior Art" and reference numeral 102 has been deleted from FIG. 1. Regarding the reference numerals 100, 106 and 110 that are discussed on Page 10 of the specification but that are not shown on FIG. 2, these are typographical errors that have been corrected as indicated in the amendment to the specification herein.

In view of the foregoing, reconsideration and withdrawal of the objection to the drawings is respectfully requested.

REJECTION OF CLAIMS 1-9 AND 23-31 UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

Claims 1-9 and 23-31 were rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The stated basis for the rejection is that the specification does not describe the limitation "performing a physical checksum calculation on a block of data *in volatile memory*" (emphasis added). Claims 1 and 23 have been amended to recite "performing the physical checksum calculation on a block of data." It is respectfully submitted that Claims 1 and 23, as amended, are fully supported by the specification of the present application. Claims 2-9 and 24-31 depend from Claims 1 and 23, respectively. Accordingly, reconsideration and withdrawal of the rejection of Claims 1-9 and 23-31 under 35 U.S.C. § 112, first paragraph is respectfully requested.

REJECTION OF CLAIMS 14-20 AND 38-49 UNDER 35 U.S.C. § 102(b)

Claims 14-20 and 38-49 were rejected under 35 U.S.C. § 102(b) as being anticipated by *DeRoo et al.*, U.S. Patent No. 5,182,752 (hereinafter "*DeRoo*"). It is respectfully submitted that Claims 14-20 and 38-49 are patentable over *DeRoo* for at least the reasons provided hereinafter.

CLAIM 14

Claim 14 recites a method for maintaining data integrity that requires the steps of:

"performing a physical checksum calculation on a block of data;
after performing the physical checksum calculation,
        performing a first physical checksum verification procedure on said block of data
                prior to writing the block of data to nonvolatile memory, wherein the first
                physical checksum verification procedure indicates whether the block of
                data was corrupted subsequent to performing the physical checksum
                calculation on the data contained with the block of data; and

if the block of data passes said first physical checksum verification procedure, then causing the block of data to be written to nonvolatile memory."

It is respectfully submitted that Claim 14 includes one or more limitations that are not taught or suggested by *DeRoo*. For example, it is respectfully submitted that the limitation "if the block of data passes said first physical checksum verification procedure, then causing the block of data to be written to nonvolatile memory," is not taught or suggested by *DeRoo*. The Office Action asserts that this limitation is taught by *DeRoo* in FIGS. 2, 3A and 3B and the text at Col. 4, line 53 through Col. 5, line 29. These figures and text describe the internal architecture and operation of the bus interface 10. More specifically, how the bus interface 10 processes data received from the data bus 9 and, under the control of the microprocessor 12, causes the data to be stored in linked buffers in RAM 16 if bus interface 10 does not detect any errors in the data.

It is respectfully submitted that to the extent that bus interface 10 maintains data integrity, it is in the context of bus interface 10 determining whether data is to be written to a volatile memory, i.e., the RAM 16, and not a non-volatile memory as required by Claim 14. According to *DeRoo*, the storage interface 14 is responsible for causing data to be written to storage device 18 (See e.g., Col. 2, lines 47-56 and Col. 6, lines 11-18). It is therefore respectfully submitted that the limitation "if the block of data passes said first physical checksum verification procedure, then causing the block of data to be written to nonvolatile memory," is not taught or suggested by *DeRoo*.

In view of the foregoing, it is respectfully submitted that Claim 14 includes one or more limitations that are not taught or suggested by *DeRoo* and is therefore patentable over *DeRoo*.

CLAIMS 15-20

Claims 15-20 all depend from Claim 14 and include all of the limitations of Claim 14. It is therefore respectfully submitted that Claims 15-20 are patentable over *DeRoo* for at least the reasons set forth herein with respect to Claim 14. Furthermore, it is respectfully submitted that Claims 15-20 recite additional limitations that independently render them patentable over *DeRoo*.

For example, Claim 17 requires "a software application performing the physical checksum calculation on said block of data" and "a component other than said software application performing said first physical checksum verification procedure on said block of data prior to writing the block of data to nonvolatile memory." *DeRoo* describes bus interface 10 only in the context of circuit elements. Furthermore, *DeRoo* does not teach or suggest a software application performing a physical checksum calculation on a block of data. It is therefore respectfully submitted that the additional limitations required by Claim 17 are not taught or suggested by *DeRoo*.

The Office Action asserts that the use of hardware and software to perform physical checksum calculations and verification is well known in the art and that the approach of *DeRoo* is consistent with utilizing a software application to perform the physical checksum calculation and a component other than the software application to perform the physical checksum verification. It is respectfully submitted, however, that the *DeRoo* reference itself does not teach or suggest using a software application to perform the physical checksum calculation on the block of data since *DeRoo* describes only using a checksum circuit to calculate the checksum value. It is therefore respectfully submitted that the limitations required by Claim 17 are not taught or suggested by *DeRoo* and that Claim 17 is therefore patentable over *DeRoo*.

As another example, Claim 18 requires "a disk array component performing the physical checksum verification procedure on said block of data, wherein the disk array component is configured to write the block of data to disk only after verifying the integrity of the data block." *DeRoo* describes that a word parity checker 30 contained in bus interface 10 checks words received from encoder/decoder 28 for errors. There is no mention or suggestion in *DeRoo* of a disk array component performing the physical checksum verification procedure, as is required by Claim 18. It is therefore respectfully submitted that the limitations required by Claim 18 are not taught or suggested by *DeRoo* and that Claim 18 is therefore patentable over *DeRoo*.

CLAIMS 38-44

Claims 38-44 recite limitations similar to Claims 14-20, except in the context of computer-readable media. It is therefore respectfully submitted that Claims 38-44 are patentable over *DeRoo* for at least the reasons set forth herein with respect to Claims 14-20.

CLAIMS 45-48

Claims 45-48 recite limitations similar to Claims 14, except in the context of apparati. It is therefore respectfully submitted that Claims 45-48 are patentable over *DeRoo* for at least the reasons set forth herein with respect to Claim 14.
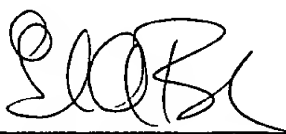
In view of the foregoing, it is respectfully submitted that Claims 14-20 and 38-49 are patentable over *DeRoo*. Accordingly, reconsideration and withdrawal of the rejection of Claims 14-20 and 38-49 under 35 U.S.C. § 102(b) as being anticipated by *DeRoo* is respectfully requested.

It is respectfully submitted that all of the pending claims are in condition for allowance and the issuance of a notice of allowance is respectfully requested. If there are any additional charges, please charge them to Deposit Account No. 50-1302.

The Examiner is invited to contact the undersigned by telephone if the Examiner believes that such contact would be helpful in furthering the prosecution of this application.

Respectfully submitted,

HICKMAN PALERMO TRUONG & BECKER LLP

Edward A. Becker
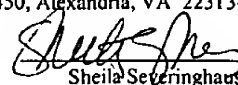Reg. No. 37,777
Date: October 29, 2003

1600 Willow Street
San Jose, CA 95125
(408) 414-1204
Facsimile: (408) 414-1076